Recommended Documentation:
Velocity, Flow Rate, Volumetric Accuracy

This procedure involves providing documentation to verify the accuracy of the instantaneous flow measurement at individual turnouts. The documentation includes the following four key points:

1. *Turnout calibration equations*
   a. If all similar turnouts (such as meter gates of a specific size) use the same equation of discharge, provide a description of all such similar groups along with their discharge equations and calibration coefficients.
   b. If turnouts have been individually calibrated, provide a list of turnouts and locations and the equations and various calibration coefficients that have been developed.

2. *Standardization of inlet and valve conditions*

   Provide photos of at least 10 devices of each of the same design showing verification that the inlet, valve placement, etc. conditions are the same within each group (e.g., if there are four different designs (not sizes), there would be four groups of photos, each group with 10 turnouts).

3. *Procedures and equipment for flow rate verification*

   Provide documentation of field procedures and equipment used to verify instantaneous flow rates for discharge equation calibration purposes, through at least 15 turnouts that span the range of possible designs and conditions of turnouts in the district. This verification procedure has to be conducted with accurate flow measurement verification equipment, to avoid errors.

4. *Equations for flow measurement verification*

   Provide well-explained computations and equations used for verification of flow measurement accuracy for each type of turnout (e.g., what % accuracy, on what percentage of delivered volumes).
   a. Combine this accuracy with the inaccuracy in volume measurement that is inherent with varying canal water levels or pipeline pressures (described in Chapter 9) to compute the overall accuracy of the volumetric measurements of the district.
   b. Show all equations and values in a neatly organized, well-explained procedure.